Amendments to the Specification:

On page 1, immediately after the title, please insert the following new paragraph:

-- This application is a continuation application of application no. 08/883,435, filed April 7, 1997, now issued as U.S. Patent 6,333,181. The content of the aforementioned application is hereby incorporated by reference.--

On page 11, please replace the paragraph beginning on line 1 and ending on line 12 with the following amended paragraph:

--New York (1998) (hereinafter "Ausubel *et al.*"), Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, Second and Third Edition, Cold Spring Harbor Laboratory Press (1989 and 1992) (hereinafter "Sambrook *et al.*") and *Bergey's Manual of Systematic Bacteriology*, William & Wilkins Co., Baltimore (1984) (hereinafter "Bergey's Manual") the teachings of all of which are hereby incorporated by reference in their entirety. Yet other embodiments include those described in USSN 08/834,901, issued as U.S. Patent 6,102,690, filed concurrently herewith by Ingram *et al.* (Attorney Docket No. UF97-01) and USSN 08/879,005, issued as U.S. Patent 6,130,076, by Ingram *et al.* (Attorney Docket No. UF97-02), which are incorporated herein by reference.--

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for enzymatically degrading lignocellulose comprising the steps of:

(a) [subjecting]treating an aqueous mixture containing lignocellulose, without pretreatment of said lignocellulose with an alcohol/sodium oxide or

alkaline pretreatment, with ultrasound; and

(b) contacting the mixture with a cellulase under conditions sufficient for hydrolysis.

Claims 2-6 (original):

2. The method according to Claim 1 wherein said aqueous mixture of step (a) further comprises said cellulase.

3. The method according to Claim 2 wherein said cellulase is provided by a cellulase-producing microorganism in said aqueous mixture.

4. The method according to Claim 2 wherein said step (a) is continuous.

5. The method according to Claim 2 wherein said step (a) is discontinuous.

6. The method according to Claim 1 wherein said ultrasound is conducted at a frequency of between about 2 and 200 kHz.

Claim 7 (currently amended): (Amended) A method for enzymatically degrading lignocellulose comprising the steps of:

(a) [subjecting]treating an aqueous mixture containing lignocellulose with ultrasound; and

(b) contacting the mixture with a cellulase and ethanologenic microorganism under conditions sufficient for hydrolysis.

Claims 8-25 (original):

8. The method according to Claim 7 wherein said aqueous mixture of step (a) further comprises said cellulase and ethanologenic microorganism.

9. The method according to Claim 8 wherein said cellulase is provided by a cellulase-producing microorganism in said aqueous mixture.

10. The method according to Claim 8 wherein said step (a) is continuous.

11. The method according to Claim 8 wherein said step (a) is discontinuous.

12. The method according to Claim 8 wherein said ultrasound is conducted at a frequency of between about 2 and 200 kHz.

13. The method according to Claim 8 wherein said ethanologenic microorganism is an ethanologenic bacteria or yeast.

14. The method according to Claim 13 wherein said ethanologenic microorganism is a bacteria or yeast which expresses one or more enzymes which, individually or together, convert a sugar to ethanol.

15. The method according to Claim 13 wherein said ethanologenic microorganism expresses enzymes which, individually or together, convert pentose and hexose to ethanol.

16. The method according to Claim 13 wherein said ethanologenic microorganism expresses alcohol dehydrogenase and pyruvate decarboxylase.

17. The method according to Claim 16 wherein said alcohol dehydrogenase and pyruvate decarboxylase are from *Zymomonas mobilis*.

18. The method according to Claim 13 wherein said ethanologenic microorganism expresses xylose isomerase, xylulokinase, transaldolase, and transketolase.

19. The method according to Claim 18 wherein said xylose isomerase, xylulokinase, transaldolase, and transketolase are from *Escherichia coli*.

20. The method according to Claim 18 wherein said xylose isomerase, xylulokinase, transaldolase, and transketolase are from *Klebsiella oxytoca*.

21. The method according to Claim 18 wherein said xylose isomerase, xylulokinase, transaldolase, and transketolase are from Erwinia species.

22. The method according to Claim 13 wherein said ethanologenic microorganism expresses alcohol dehydrogenase, pyruvate decarboxylase, xylose isomerase, xylulokinase, transaldolase, and transketolase.

23. The method according to Claim 22 wherein said ethanologenic microorganism is a recombinant microorganism expressing *Zymomonas mobilis* alcohol dehydrogenase and pyruvate decarboxylase wherein said microorganism is selected from the group consisting of *Escherichia coli*, *Klebsiella oxytoca*, and Erwinia species.

24. The method according to Claim 23 wherein said ethanologenic microorganism is *Klebsiella oxytoca* P2.

25. The method according to Claim 23, wherein said ethanologenic microorganism is *Escherichia coli* KO11.

Claim 26 (New): The method of claim 7, wherein step (a) is performed without pretreatment of said lignocellulose with an alcohol/sodium oxide or alkaline pretreatment.